



# **United States Marine Corps**

## **M1A1 TANK SYSTEMS BRIEF**

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**Marine Corps Systems Command**





# USMC M1A1 Tank Systems

## • **PROCUREMENT & FIELDING** **Programs:**

- **M1A1 Safety Modifications**
- **Future Modifications**
- **M88A2 HERCULES Tank Recovery Vehicle**
- **Armored Vehicle Driver's Vision Enhancer**
- **Conduct Of Fire Trainer Re-host**

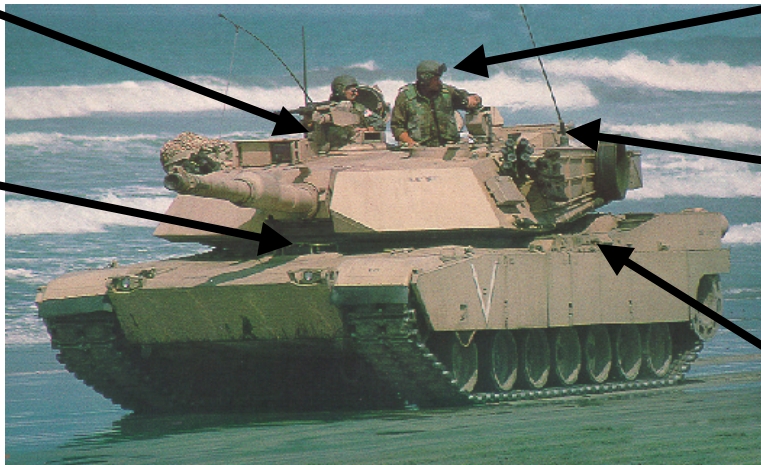




# M1A1 SAFETY MODIFICATIONS PROGRAM

## DESCRIPTION

GR



VIC-3

EAPU

NBC

The USMC M1A1 Tank Safety Modifications Program consists of the following six modifications:

- NBC Fire Fix
- External Auxiliary Power Unit (EAPU) Upgrade
- Driver's Hatch Interlock (DHI)
- AN/VIC-3 (V) 1 Intercom System (VIC-3)
- Precision Location GPS Receiver (PLGR) Installation Kit
- NBC Sponson Box Drain

All of the modifications will become an integral part of the tank and are not stand-alone items.

## FIELDING SCHEDULE

The only USMC tanks awaiting safety modifications are on Maritime Prepositioning Shipping (MPS).

## FUNDING

Program fully funded.



# TANK SYSTEMS FUTURE MODIFICATIONS PROGRAM

## TANK SYSTEMS FUTURE MODIFICATIONS

### DESCRIPTION

Tank Systems Future Modifications Program sustains the technological currency of the M1A1 and AVLB while concurrently addressing equipment deficiencies, obsolesced components, and/or opportunities to reduce total ownership costs. Some highlights:

AVLB bridge upgrade replaces the bottom cord (hinges and stringer) of the bridge, while providing a full inspection and repair of the entire bridge. Upgrades bridge from MLC 60 to MLC70 and resets the bridge service life.

Direct Support Electrical Systems Test Set (DSESTS) upgrade is a mobility enhancement which provides an ISO shelter and ancillary equipment capable of being easily loaded/offloaded and transported using the newly fielded MTRV. It will replace the current M934 Expandable Van that is being phased out.

### PROGRAM SCHEDULE

TASK	FY03				FY04				FY05				FY06				FY07				FY08				FY09			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>Research/Development/Eval (RDT&amp;E)</b>																												
Technical Evaluation																												
Operation Evaluation																												
Studies																												
<b>Procurement/Fielding (PMC)</b>																												
Deep Water Fording Kits																												
Dry Chemical																												
Sidecar																												
DSESTS																												
Mod Fielding (Halon , SideCar, GPS)																												
<b>Above Core Initiative:</b>																												
RTNBR/HN/UTCP																												
AVLB Scissor Bridge Upgrade																												

### FUNDING

Core Initiative Program.  
Funding requested FY04-09.



# M88A2 HERCULES TANK RECOVERY VEHICLE

## DESCRIPTION

The M88A2 Heavy Equipment Recovery Combat Utility Lift Evacuation System (HERCULES) is a product improvement program which reuses the fielded M88A1 hull and upgrades the engine, transmission, suspension, armor protection, increases winch, boom, lift, and towing capabilities in support of vehicles up to 70 tons.



## FIELDING SCHEDULE

UNIT	QTY	START DATE	COMP DATE
<b>MP I:</b>	7 VEH	JUNE 2001	DEC 2001
<b>MARCORDET FORT KNOX:</b>	2 VEH	SEPT 2001	SEPT 2001
<b>I MEF: (2<sup>nd</sup> Tk Bn &amp; 2<sup>nd</sup> FSSG)</b>	9 VEH	FEB 2002	FEB 2002
<b>MP II:</b>	7 VEH	APR 2002	FEB 2003
<b>MEF: (1<sup>ST</sup> Tk Bn &amp; 1<sup>ST</sup> FSSG)</b>	9 VEH	AUG 2002	AUG 2002
<b>EEAP 29 PALMS CA:</b>	2 VEH	AUG 2002	AUG 2002
<b>RESERVES:</b>	9 VEH	SEPT2002	JAN 2003
<b>DMFA:</b>	3 VEH	APR 2003	JUL 2003
<b>MP III:</b>	7 VEH	JULY 2003	DEC 2003

## FUNDING

Program fully funded.





# ARMORED VEHICLE DRIVER'S VISION ENHANCER

## DESCRIPTION

Armored Vehicle Driver's Vision Enhancer is a passive, uncooled thermal driver's device that replaces the existing AN/VVS-2 on M1A1 Tanks, AAVs, LAVs, AVLBs, and M88 Retrievers. It will allow armored vehicles to operate safely during periods of darkness and limited visibility. The sensor and display are common to all vehicles. The bracket provides integration specific to the host vehicle.

Organic maintenance at organizational and intermediate level - Contractor Logistics support above intermediate.

Average purchase price is \$14.4K each.

## FIELDING SCHEDULE (M1A1)

Fielding Decision	30 Jan 01
1 <sup>st</sup> Tank Bn Init Fielding	Feb 01
2 <sup>nd</sup> Tank Bn Init Fielding	Feb 01
Fort Knox	Apr 01
2 <sup>nd</sup> Tank Bn Full Fielding	Oct 01
4 <sup>th</sup> Tank Bn (Camp Pendleton)	Mar 02
1 <sup>st</sup> Tank Bn Full Fielding	Apr 02
4 <sup>th</sup> Tank Bn (Yakima, Boise)	Apr 02
3 <sup>rd</sup> Tank Bn	Apr 02
EEAP	Dec 02

## FUNDING

Program fully funded.



# CONDUCT OF FIRE TRAINER (COFT) RE-HOST



## DESCRIPTION

- M1A1 Advanced Matrix
- Improved visuals resolution
- Reduced power consumption
- Open architecture
- Extends usable life at fraction of new acquisition cost
- Utilizes COTS Technology
- Higher performance hardware
- Built with latest technology
- 3 shelters → 1 shelter

## SCHEDULE

USMC is tracking the status of the US Army COFT Re-host effort.

## FUNDING

COFT Re-host of all six USMC COFTs is funded.



# USMC M1A1 Tank Systems

- **RESEARCH & DEVELOPMENT**  
**Programs:**

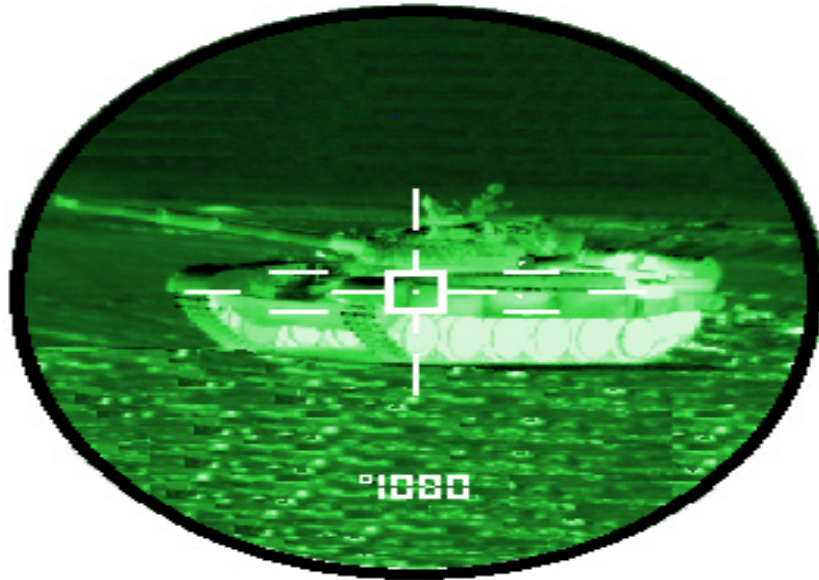
- **Firepower Enhancement Program**
- **M1A1 Munitions Countermeasures**







# M1A1 FIREPOWER ENHANCEMENT PROGRAM (FEP)



## DESCRIPTION

FEP is a suite of lethality upgrades to the M1A1 Tank that will increase the tank crew's ability to detect, recognize, and identify targets. It will increase all-weather engagement ranges, crew situational awareness and target location accuracy. System will include:

- a second-generation thermal sight
- a north finding/far target location capability
- an eye-safe laser range finder

## PROGRAM SCHEDULE

MS 0: 6/25/99  
MS I: 2/09/00  
MS II: 3<sup>rd</sup> Qtr, FY02  
MS III: 4<sup>th</sup> Qtr, FY03

IOC: 2005  
FOC: 2008

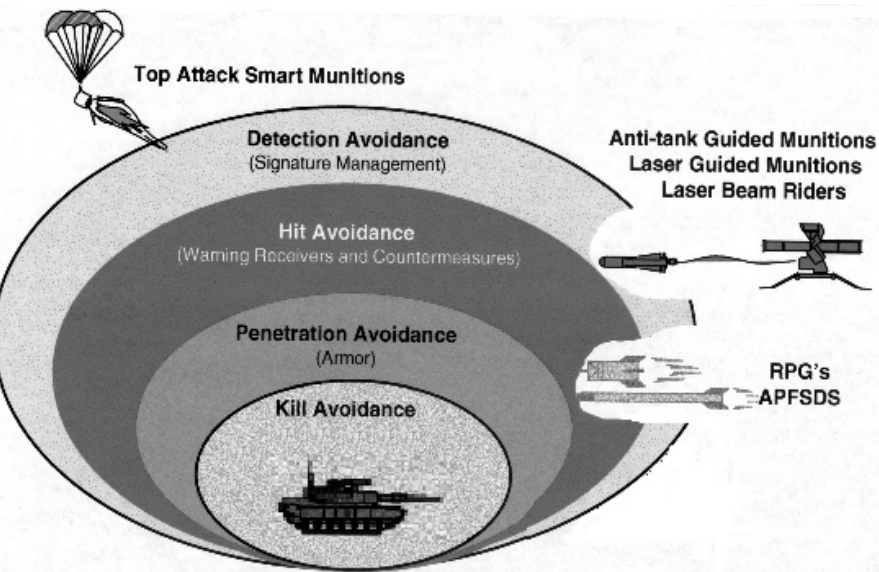
## FUNDING

RDT&E funding FY99-03.  
PMC funding requested FY04-08.



# M1A1 MUNITIONS COUNTERMEASURES (MCM)

## DESCRIPTION



MCM will improve the survivability of the M1A1 Tank in the face of improved threat antitank weapons and precision guided munitions. Survivability improvements include detection avoidance, hit avoidance and penetration avoidance upgrades. Balanced improvements in each area include:

- Detection avoidance: Signature management treatments for the 269 M1A1 Common Tanks.
- Hit avoidance: Laser Warning Receiver/ Commander's Decision Aid for all 403 M1A1 tanks.
- Penetration Avoidance: Armor upgrades for the 269 M1A1 Common Tanks.

## PROGRAM SCHEDULE

MS 0	3 <sup>rd</sup> Qtr, FY02
MS A / B	1 <sup>st</sup> Qtr, FY05
MS C	1 <sup>st</sup> Qtr, FY08
IOC	2 <sup>nd</sup> Qtr, FY10
FOC	2 <sup>nd</sup> Qtr, FY12

## FUNDING

RDT&E funding requested FY04-07.  
PMC funding requested FY08-11.